We claim:

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A heat-insulating coating comprising one or more cholesteric layers and reflecting at least 40%, in particular at least 45%, of the incident radiation in the infrared wavelength range, preferably above 750 nm and, in particular, in the wavelength range from 751 nm to about 2000 nm.

2. A heat-insulating coating as claimed in claim 1, which transmits at least 80%, in particular at least 90%, of the incident radiation in the wavelength range from about 390 nm to 750 nm.

3. A heat-insulating coating as claimed in either of the preceding claims, which comprises two or more, preferably from about 2 to 20, and, in particular, from about 2 to 10 cholesteric IR-reflecting layers.

4. A heat-insulating coating as claimed in claim 3, whose cholesteric layers have mutually different reflection maxima in the wavelength range > 750 nm.

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5. A heat-insulating coating as claimed in any of the preceding claims, which comprises two or more cholesteric layers, preferably a number of cholesteric layers which can be divided by 2, the pitch of the helical superstructures of 2 layers in each case being identical but their handedness being different.

A heat-insulating coating as claimed in any of the preceding claims which between layers having a helical superstructure of identical pitch and identical handedness has a medium which reverses the direction of rotation of the transmitted circularly polarized light, especially what is known as a λ/2 film or plate.

40 7. A heat-insulating coating as claimed in claim 6 which reflects at least 75%, in particular at least 85%, of the incident radiation in the wavelength range above 750 nm, in particular in the wavelength range from 751 nm to about 2000 nm.

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8. A heat-insulating coating as claimed in any of the preceding claims, which in the cured state comprises cholesteric compounds or mixtures of compounds selected from

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- a) at least one cholesteric polymerizable monomer;
 - b) at least one achiral, hematic, polymerizable monomer and a chiral compound;
- c) at least one cholesteric crosslinkable polymer;
 - d) at least one cholesteric polymer in a polymerizable diluent or a mixture of polymerizable diluents;
 - e) at least one cholesteric polymer whose cholesteric phase can be frozen in by rapid cooling to below the glass transition temperature; or
- f) at least one achiral, liquid-crystalline crosslinkable polymer and a chiral compound.
- 9. A process for producing a heat-insulating coating as claimed in any of the preceding claims, which comprises applying to a transparent substrate at least one cholesteric IR-reflecting layer, curing it, applying, if desired, one or more further cholesteric IR-reflecting layers and, if desired, a medium which reverses the direction of rotation of the transmitted circularly polarized light, curing said layer(s) and so completing the heat-insulating coating.
- 10. A multicomponent coating system comprising components capable of forming cholesteric layers in accordance with the
 35 definition in any of claims 4 to 8.
- 11. The use of a heat-insulating coating as claimed in any of claims 1 to 8 for producing insulating windows or heat-insulating transparent construction materials or for insulating residential, office or industrial buildings.
- 12. The use of a heat-insulating coating as claimed in any of claims 1 to 8 in the automotive sector, especially for producing heat-insulating laminated glass screens.

13. A film, in particular and adhesive film, comprising a heat-insulating coating as claimed in any of claims 1 to 8.